



WP1 – Final Item Selection for DIMI, 9-11 years

DIMI citation:

Laaber, F., Florack, A., Koch, T., & Hubert, M. (2023). Digital maturity: Development and validation of the digital maturity inventory (DIMI). *Computers in Human Behavior*, 143, 107709. <https://doi.org/10.1016/j.chb.2023.107709>

Formula for creating an overall Digital Maturity Score:

1. Create an average score for each dimension
2. Multiply these average scores with their respective weights, then add these for the overall score:
$$\text{DM Score} = \text{AutonomyChoice_score} \times 9.91 + \text{AutonomyWithin_score} \times 9.39 + \text{Literacy_score} \times 10.17 + \text{Growth_score} \times 10.43 + \text{Risk_score} \times 11.73 + \text{EmoNeg_score} \times 10.30 + \text{EmoAgg_score} \times 9.91 + \text{Support_score} \times 9.39 + \text{Respect_score} \times 10.30 + \text{Citizenship_score} \times 8.47$$

(SPSS Syntax appended to this document)

Autonomous Choice to Use Mobile Devices

Using mobile devices out of one's own choice rather than a feeling of obligation or compulsion.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)



Spanish	English	Variable name
Me conecto porque siento que tengo que estar en línea todo el tiempo	I am online because I feel like I have to be online all the time	autonomy_c1_young
Estoy en línea porque si no, siento que me estoy perdiendo algo	I am online because otherwise I feel like I am missing out on something	autonomy_c2_young
Tengo la sensación de que controla mi vida	I have the feeling that it is controlling my life	autonomy_c3_young

$\alpha = .77$, $CR = .78$, $AVE = .55$ ($N=558$)

Reverse coded items: autonomy_c1_young, autonomy_c2_young, autonomy_c3_young

Autonomy Within Digital Contexts

Deliberately choosing which digital contexts to engage with, viewing content which one finds interesting and enjoys.

*Piensa **con qué frecuencia te ocurren esas cosas** mientras usas un **dispositivo móvil** como teléfonos móviles, tabletas, iPad u ordenadores portátiles.*

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

"Cuando uso un dispositivo móvil..."

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Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
Elijo el contenido que quiero ver	I choose the content I want to see	autonomy_w1_young
Hago las cosas que me gustan	I do the things that I like	autonomy_w2_young
Yo decido lo que hago	I decide what I do	autonomy_w3_young

$\alpha = .70$, $CR = .70$, $AVE = .44$ ($N=558$)

Digital Literacy

The technical skills to use mobile devices and the internet in a safe and effective manner.

*Dinos hasta qué punto las siguientes afirmaciones son ciertas para ti cuando piensas en cómo utilizas Internet y dispositivos móviles como teléfonos móviles, tabletas, iPad u ordenadores portátiles. Piensa en **lo cierto que sería esto de ti** si tuvieras que hacerlo ahora, por tu cuenta.*

Please tell us how true the following statements are of you when thinking about how you use the internet and mobile devices such as mobile phones, tablets, iPads, or



laptop computers. Think about how true this would be of you if you had to do it now, on your own.

Nada cierto en mi caso (1) - Poco cierto en mi caso (2) - Ni cierto ni falso en mi caso (3) - Bastante cierto en mi caso (4) - Muy cierto en mi caso (5)

Not at all true of me (1) - Not very true of me (2) - Neither true or untrue of me (3) - Mostly true of me (4) - Very true of me (5)

Spanish	English	Variable name
Sé cómo cambiar la configuración de privacidad (por ejemplo, desactivar las cookies)	I know how to change the privacy settings (for example, turn off cookies)	literacy_1_young
Sé cómo cambiar la configuración de privacidad en las redes sociales (por ejemplo, quién puede ver cosas sobre mí en Instagram, Snapchat o TikTok)	I know how to change the privacy settings in social media (for example, who can see things about me on Instagram, Snapchat or TikTok)	literacy_2_young
Sé cómo almacenar fotos, documentos u otros archivos en la nube (por ejemplo, Google Drive, iCloud)	I know how to store photos, documents or other files in the cloud (for example, Google Drive, iCloud)	literacy_3_young

$\alpha = .82$, $CR = .82$, $AVE = .61$ ($N=558$)

Individual Growth in Digital Contexts

The ability to use mobile devices and digital contexts for personal learning and growth.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
Aprendo cosas nuevas	I learn new things	growth_1_young
Aprendo cosas útiles	I learn something useful	growth_2_young
Aprendo nuevas habilidades	I learn new skills	growth_3_young

$\alpha = .81$, $CR = .81$, $AVE = .59$ ($N=558$)



Digital Risk Awareness

Managing risks related to mobile devices and the online environment by being aware of potential dangers and influences.

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Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
Tengo mucho cuidado	I am very careful	risk_1_young
Me importa mucho mi propia seguridad	my own safety is very important to me	risk_2_young
Me aseguro de tener cuidado	I make sure to be careful	risk_3_young

$\alpha = .85$, $CR = .85$, $AVE = .66$ ($N=558$)

Regulation of Negative Emotions in Digital Contexts

The ability to control and effectively regulate negative emotions due to frustrations in digital contexts.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
y me molesto o me enfado en línea, tardo mucho tiempo en sentirme mejor	and I become annoyed or upset online, it takes me a long time to feel better	emotion_n1_young
y me enfado o me molesto en línea, estoy de mal humor durante mucho tiempo	and I become annoyed or upset online, I stay in a bad mood for a long time	emotion_n2_young
y me enfado o molesto en línea, sólo hay unas pocas cosas que pueden hacerme sentir mejor	and I become annoyed or upset online, there are only few things that can make me feel better	emotion_n3_young



$\alpha = .84$, $CR = .85$, $AVE = .65$ ($N=558$)

Reverse coded items: emotion_n1_young, emotion_n2_young, emotion_n3_young

Regulation of Impulses in Digital Contexts

The ability to control one's behaviour and reactions to negative experiences in digital contexts.

Piensa **con qué frecuencia te ocurren esas cosas** mientras usas un **dispositivo móvil** como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
y alguien dice algo malo de mí en Internet o en un mensaje de texto, reacciono inmediatamente sin pensar en las consecuencias	and somebody says something bad about me online or in a text, I immediately react without thinking about the consequences	emotion_a1_young
y un mensaje me enfada, reacciono demasiado rápido y luego me arrepiento de la forma en que respondí	and a message makes me angry, I react too quickly and then later regret the way I responded	emotion_a2_young
y alguien me insulta, intento vengarme	and somebody insults me, I try to get back at them	emotion_a3_young

$\alpha = .77$, $CR = .78$, $AVE = .54$ ($N=558$)

Reverse coded items: emotion_a1, emotion_a2, emotion_a3

Support-Seeking Regarding Digital Problems

The ability to seek support from others when encountering problems regarding mobile devices or digital contexts.

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Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."



Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)
 Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
pido ayuda a los demás cuando tengo un problema	I ask others for help when I have a problem	support_1_young
y no sé qué hacer, pido ayuda a los demás	and I don't know what to do, I ask others for help	support_2_young
y se presenta un problema técnico, pido ayuda a los demás (por ejemplo, a un(a) amigo/a, padre, hermano/a)	and there is a technical problem, I ask others for help (for example, a friend, parent, sibling)	support_3_young
y tengo problemas con otros en Internet, pido ayuda	and I have problems with others on the internet, I get help	support_4_young

$\alpha = .80$, $CR = .81$, $AVE = .52$ ($N=558$)

Respect Towards Others in Digital Contexts

Acting respectfully when engaging with others and in content one shares online.

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Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)
 Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
y no estoy de acuerdo con alguien, intento no decir nada malo	and I disagree with someone, I try not to say anything mean	respect_1_young
pienso en cómo se sienten los demás	I think about the feelings of other people	respect_2_young
antes de publicar o enviar fotos de otras personas, me aseguro de que esas fotos no sean insultantes para ellos y que no les vayan a meter en problemas	I make sure that pictures I post or send of other people will not insult them or get them into trouble	respect_3_young
respeto las opiniones y los conocimientos de los demás	I respect the opinions and knowledge of others	respect_4_young

$\alpha = .83$, $CR = .83$, $AVE = .55$ ($N=558$)



Digital Citizenship

Using mobile devices and digital contexts to contribute to society and support important causes.

Piensa con qué frecuencia te ocurren esas cosas mientras usas un dispositivo móvil como teléfonos móviles, tabletas, iPad u ordenadores portátiles.

Please think about how often the following things happen to you while you are using a mobile device such as mobile phones, tablets, iPads, or laptop computers.

"Cuando uso un dispositivo móvil..."

"When using a mobile device..."

Nunca (1) - Rara vez (2) - A veces (3) - A menudo (4) - Siempre (5)

Never (1) - Rarely (2) - Sometimes (3) - Often (4) - Always (5)

Spanish	English	Variable name
lo uso para mejorar la vida en mi barrio, mi ciudad o en el mundo	I use it to improve life in my neighborhood, town or world	citizenship_1_young
uso Internet para apoyar temas como la protección del medio ambiente o para concienciar a otras personas sobre el cambio climático	I use the internet to support things like environmental protection or to make other people aware of climate change	citizenship_2_young
lo uso para defender cosas que realmente importan en el mundo	I use it to support things that are really important in this world	citizenship_3_young

$\alpha = .85$, $CR = .85$, $AVE = .66$ ($N=558$)

SPSS Syntax for the Digital Maturity Score

#recode reverse scored items

RECODE autonomy_c1_young (5=1) (4=2) (3=3) (2=4) (1=5) INTO
autonomy_c1r_young.
EXECUTE.

RECODE autonomy_c2_young (5=1) (4=2) (3=3) (2=4) (1=5) INTO
autonomy_c2r_young.
EXECUTE.

RECODE autonomy_c3_young (5=1) (4=2) (3=3) (2=4) (1=5) INTO
autonomy_c3r_young.
EXECUTE.

RECODE emotion_n1_young (5=1) (4=2) (3=3) (2=4) (1=5) INTO
emotion_n1r_young.
EXECUTE.




```
RECODE emotion_n2_young (5=1) (4=2) (3=3) (2=4) (1=5) INTO  
emotion_n2r_young.  
EXECUTE.
```

```
RECODE emotion_n3_young (5=1) (4=2) (3=3) (2=4) (1=5) INTO  
emotion_n3r_young.  
EXECUTE.
```

```
RECODE emotion_a1_young (5=1) (4=2) (3=3) (2=4) (1=5) INTO  
emotion_a1r_young.  
EXECUTE.
```

```
RECODE emotion_a2_young (5=1) (4=2) (3=3) (2=4) (1=5) INTO  
emotion_a2r_young.  
EXECUTE.
```

```
RECODE emotion_a3_young (5=1) (4=2) (3=3) (2=4) (1=5) INTO  
emotion_a3r_young.  
EXECUTE.
```

#computing scale scores

```
COMPUTE AutonomyChoice_score_young  
=MEAN.2(autonomy_c1r_young,autonomy_c2r_young,autonomy_c3r_young).  
EXECUTE.
```

```
COMPUTE AutonomyWithin_score_young  
=MEAN.2(autonomy_w1_young,autonomy_w2_young,autonomy_w3_young).  
EXECUTE.
```

```
COMPUTE Literacy_score_young  
=MEAN.2(literacy_1_young,literacy_2_young,literacy_3_young).  
EXECUTE.
```

```
COMPUTE Growth_score_young  
=MEAN.2(growth_1_young,growth_2_young,growth_3_young).  
EXECUTE.
```

```
COMPUTE Risk_score_young =MEAN.2(risk_1_young,risk_2_young,risk_3_young).  
EXECUTE.
```

```
COMPUTE EmoNeg_score_young  
=MEAN.2(emotion_n1r_young,emotion_n2r_young,emotion_n3r_young).  
EXECUTE.
```




```
COMPUTE EmoAgg_score_young  
=MEAN.2(emotion_a1r_young,emotion_a2r_young,emotion_a3r_young).  
EXECUTE.
```

```
COMPUTE Support_score_young  
=MEAN.3(support_1_young,support_2_young,support_3_young,support_4_young).  
EXECUTE.
```

```
COMPUTE  
Respect_score_young=MEAN.3(respect_1_young,respect_2_young,respect_3_young,respect_4_young).  
EXECUTE.
```

```
COMPUTE Citizenship_score_young  
=MEAN.2(citizenship_1_young,citizenship_2_young,citizenship_3_young).  
EXECUTE.
```

#Creating weighted dimension scores using the mean scores of expert importance rating (as seen in Rijdsdijk et al., 2007).

```
COMPUTE Literacy_Pweighted_young =10.17 * Literacy_score_young.  
EXECUTE.
```

```
COMPUTE Growth_Pweighted_young =10.43 * Growth_score_young.  
EXECUTE.
```

```
COMPUTE AutonomyC_Pweighted_young =9.91 * AutonomyChoice_score_young.  
EXECUTE.
```

```
COMPUTE AutonomyW_Pweighted_young =9.39 * AutonomyWithin_score_young.  
EXECUTE.
```

```
COMPUTE EmotionN_Pweighted_young =10.30 * EmoNeg_score_young.  
EXECUTE.
```

```
COMPUTE EmotionA_Pweighted_young =9.91 * EmoAgg_score_young.  
EXECUTE.
```

```
COMPUTE Risk_Pweighted_young =11.73 * Risk_score_young.  
EXECUTE.
```

```
COMPUTE Citizenship_Pweighted_young =8.47 * Citizenship_score_young.  
EXECUTE.
```



```
COMPUTE Respect_Pweighted_young =10.30 * Respect_score_young.  
EXECUTE.
```

```
COMPUTE Support_Pweighted_young =9.39 * Support_score_young.  
EXECUTE.
```

#creating composite measure by adding the weighted dimension scores

```
COMPUTE DigMat_Pcomposite_young =(Literacy_Pweighted_young +  
Growth_Pweighted_young + AutonomyC_Pweighted_young +  
    AutonomyW_Pweighted_young + EmotionN_Pweighted_young +  
EmotionA_Pweighted_young + Risk_Pweighted_young +  
Citizenship_Pweighted_young +  
    Respect_Pweighted_young + Support_Pweighted_young).  
EXECUTE.
```

